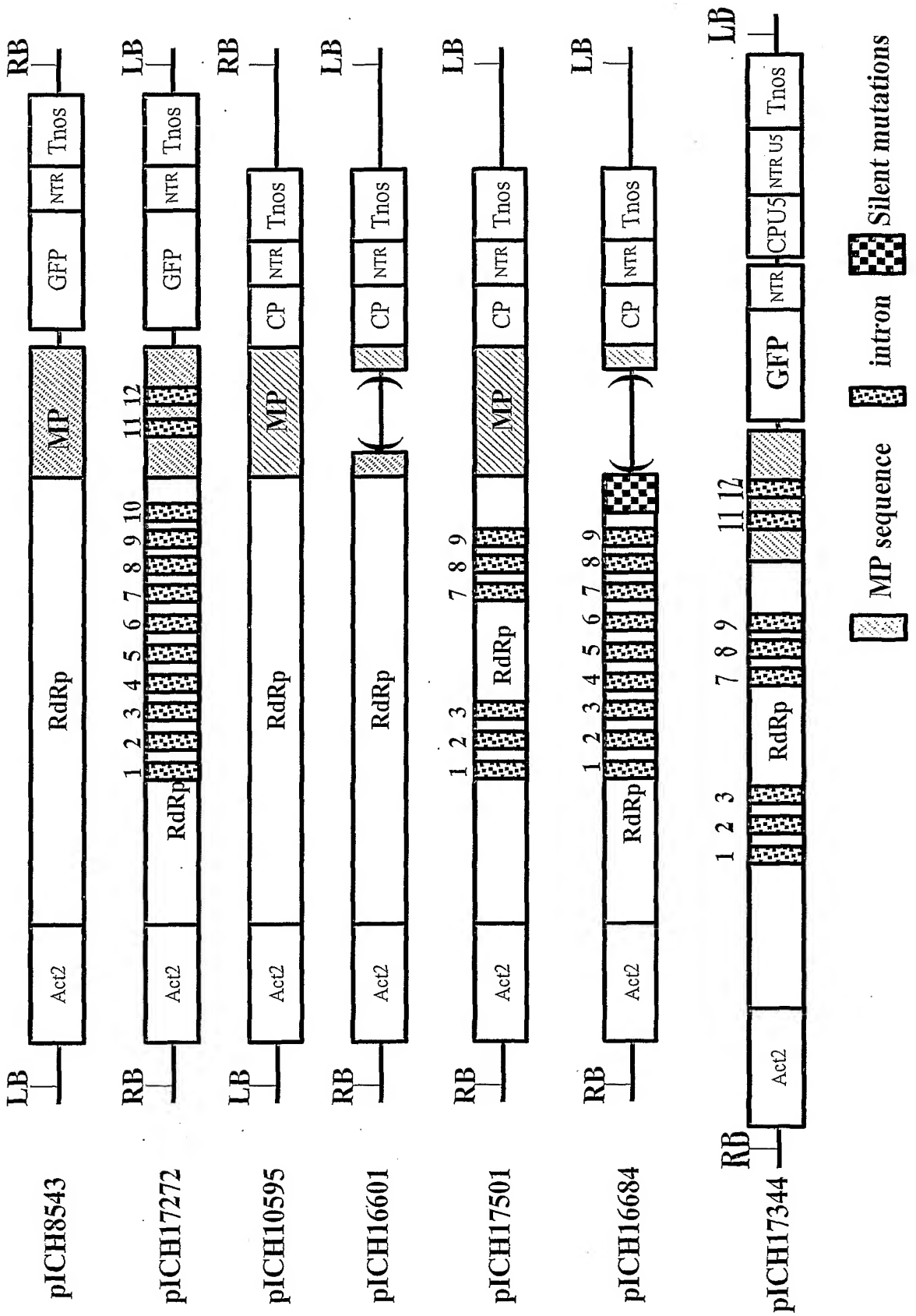

pICH8543
LB
Act2
RdRp
MP
GFP
NTR
Tnos
RB
pICH17272
LB
Act2
RdRp
1 2 3 4 5 6 7 8 9 10
11 12
GFP
NTR
Tnos
RB
pICH10595
LB
Act2
RdRp
MP
CP
NTR
Tnos
RB
pICH16601
LB
Act2
RdRp
CP
NTR
Tnos
RB
pICH17501
LB
Act2
RdRp
1 2 3
7 8 9
MP
CP
NTR
Tnos
RB
pICH16684
LB
Act2
RdRp
1 2 3 4 5 6 7 8 9
CP
NTR
Tnos
RB
pICH17344
LB
Act2
RdRp
1 2 3
7 8 9
11 12
GFP
NTR
CPU5
NTR U5
Tnos
MP sequence
intron
Silent mutations

Fig. 1

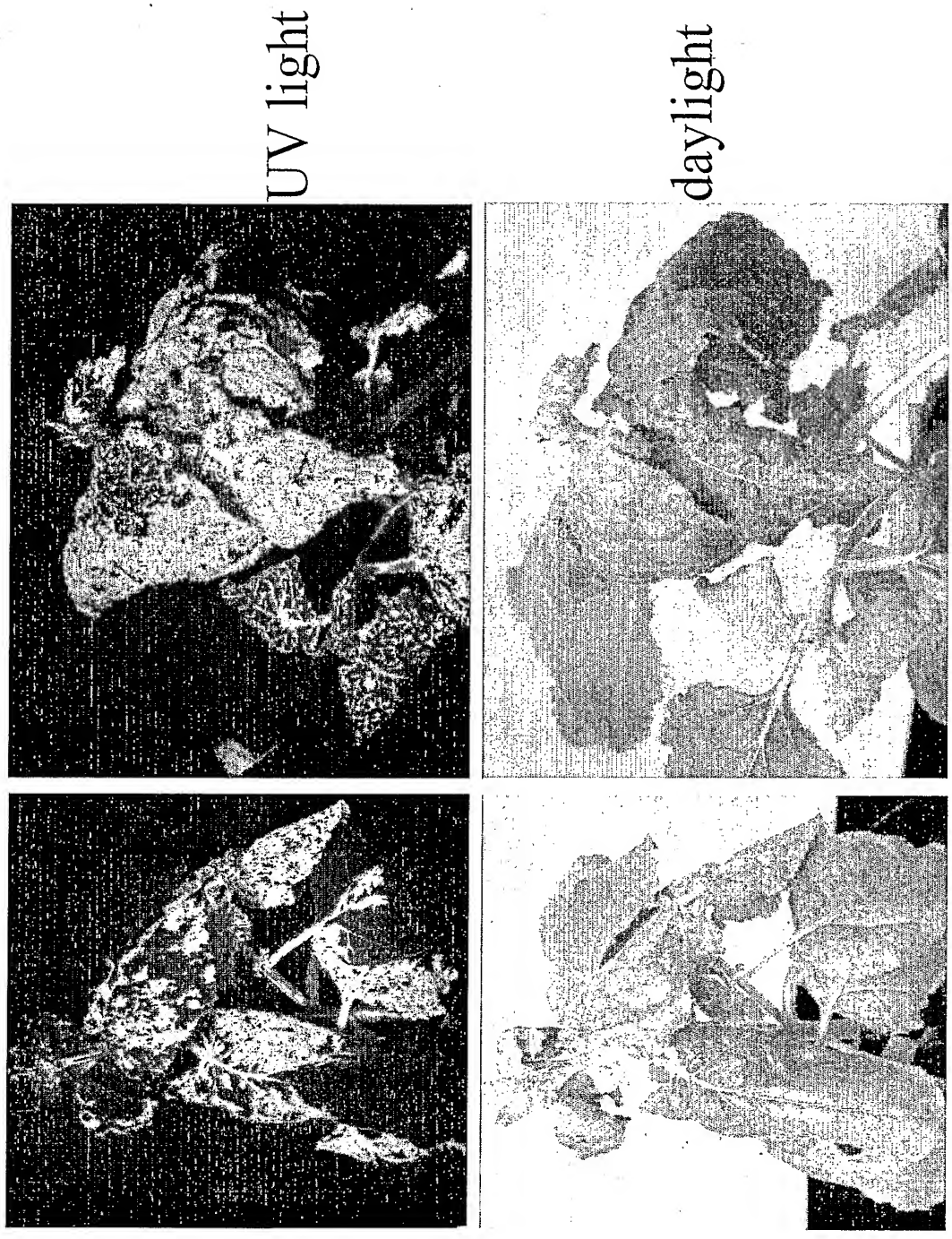


Fig. 2

Fig. 3

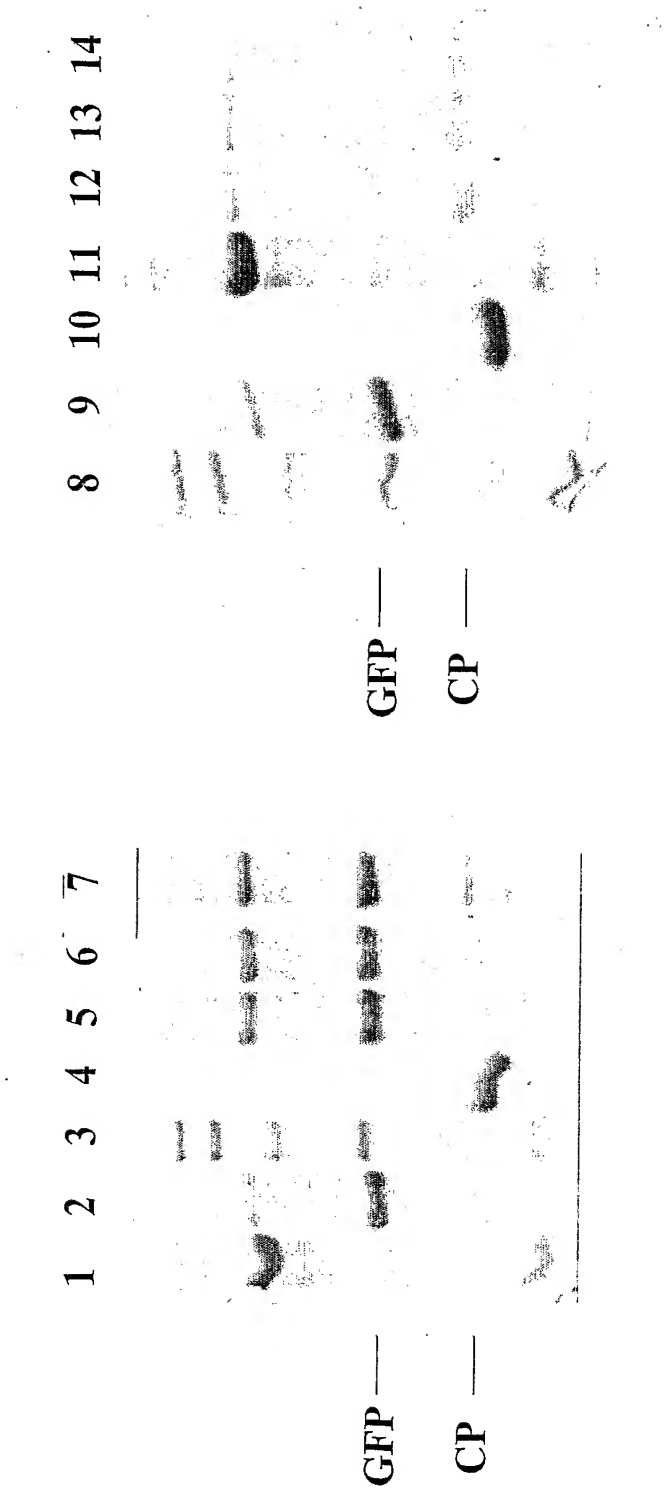


Fig. 4

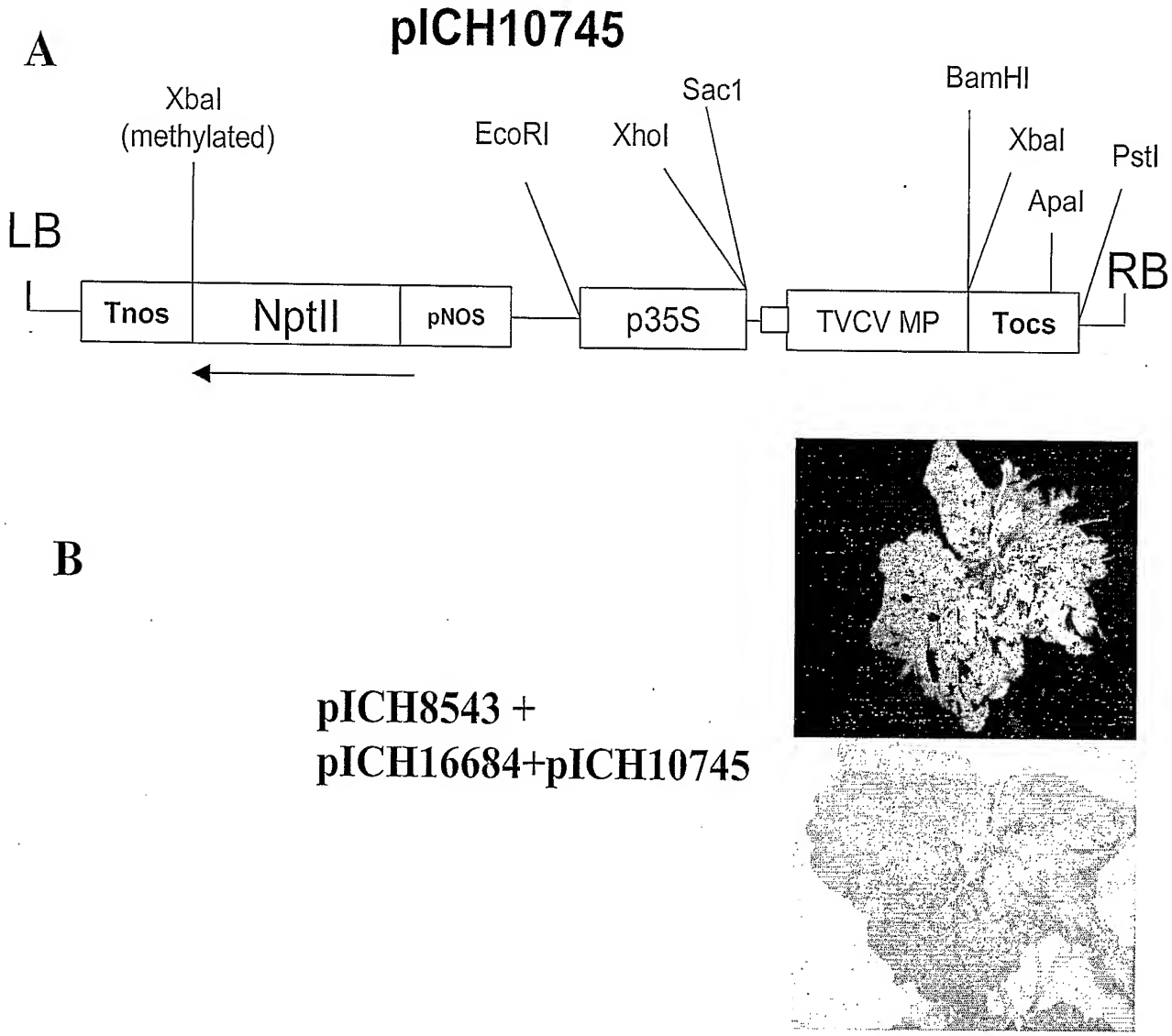

A
pICH10745
XbaI
(methylated)
EcoRI
XhoI
Sac1
BamHI
XbaI
PstI
ApaI
LB
RB
Tnos
NptII
pNOS
p35S
TVCV MP
Tocs
B
pICH8543 +
pICH16684+pICH10745
UV light
daylight

Fig. 5

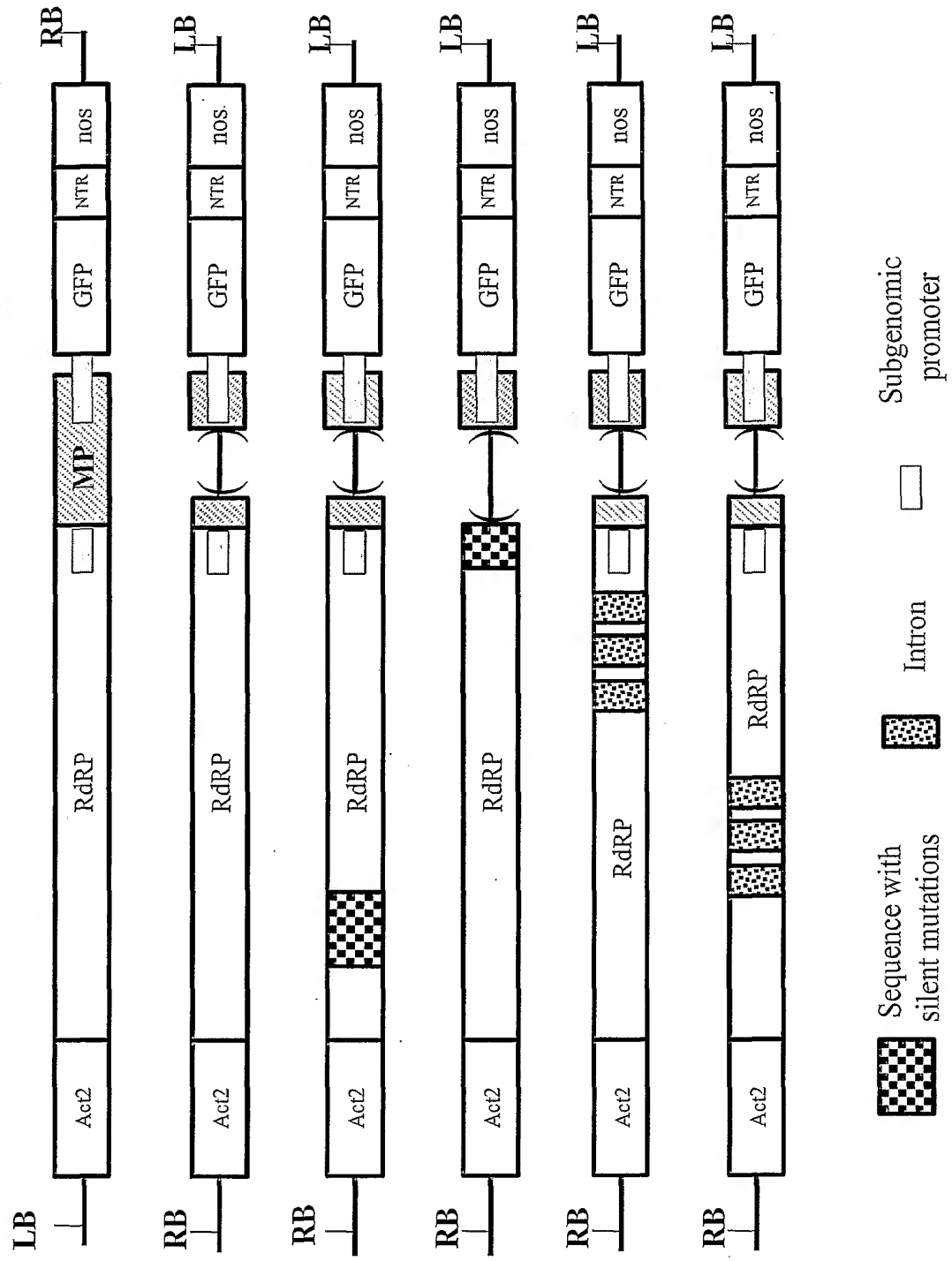

pICH8543
pICH14833
pICH15466
pICH15900
pICH15034
pICH15025
LB
RB
Act2
RdRP
MP
GFP
NTR
nos
Sequence with silent mutations
Intron
Subgenomic promoter

Fig. 6A

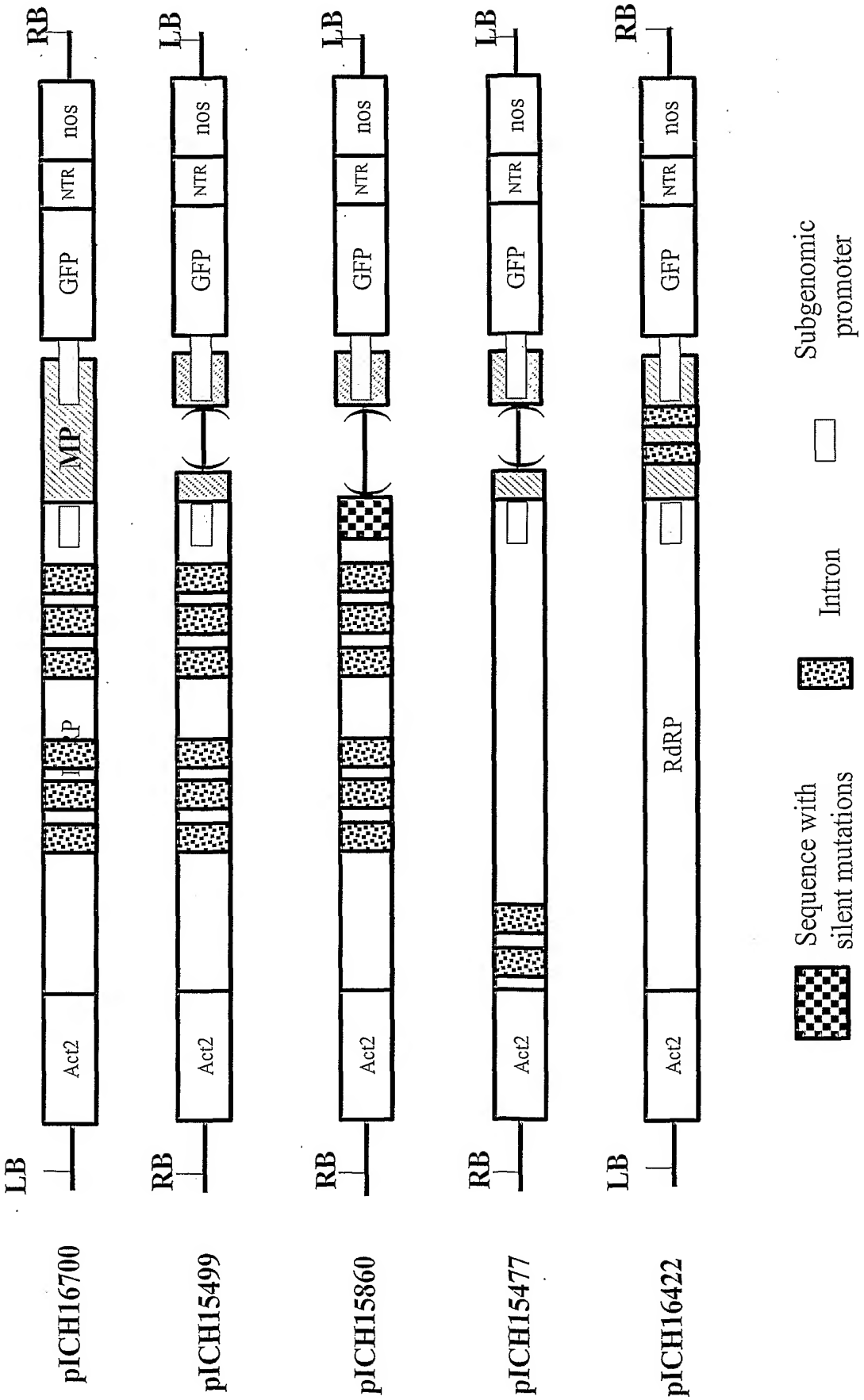
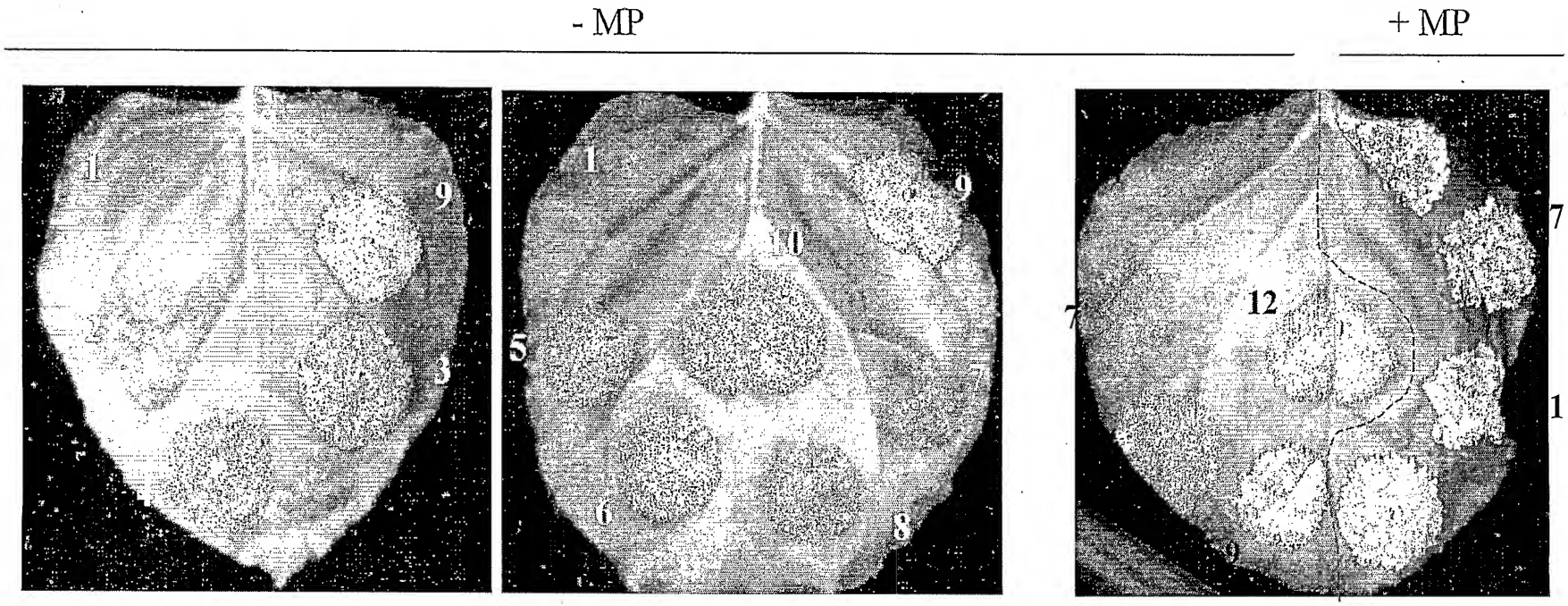
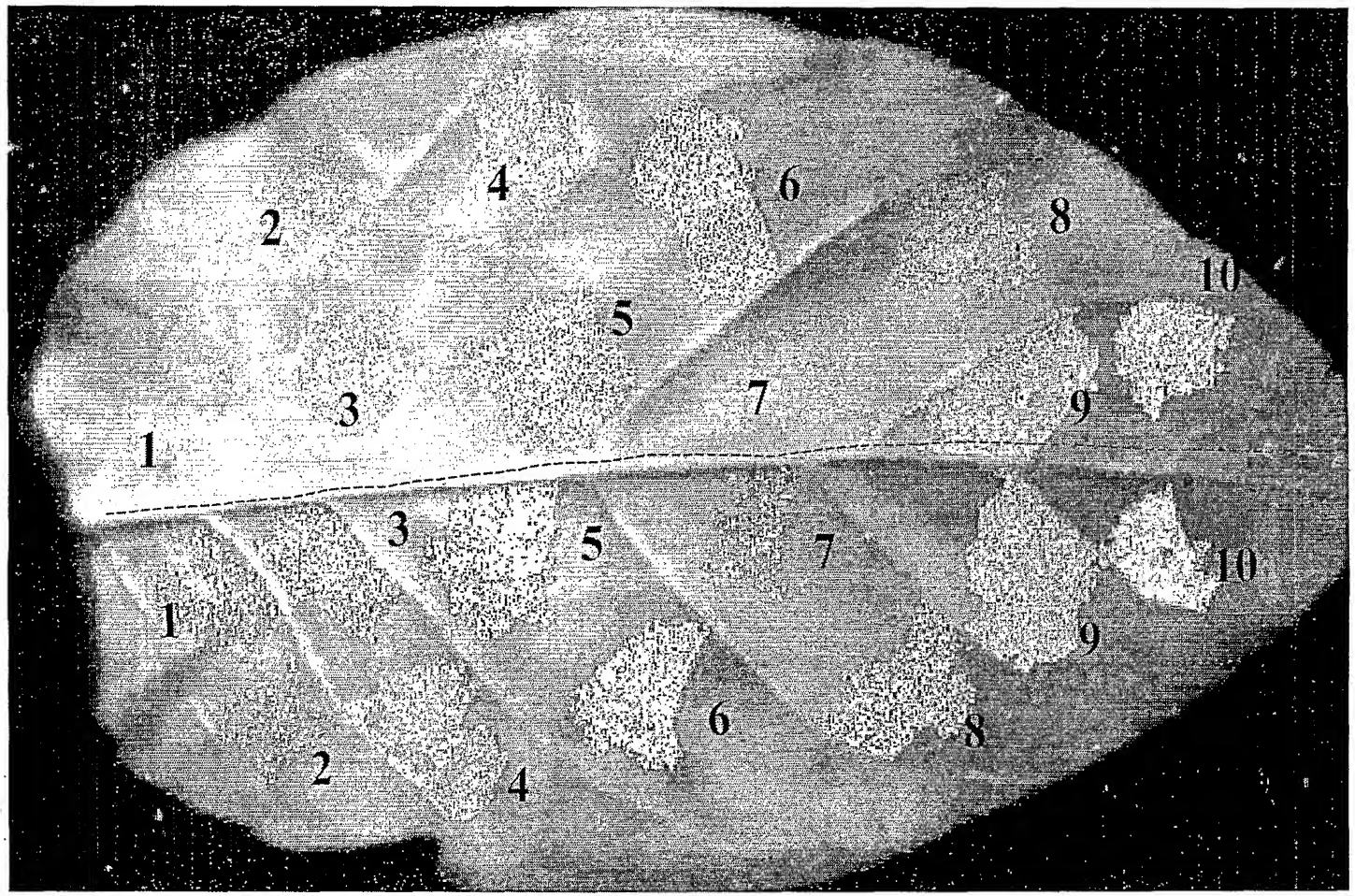

pICH16700
pICH15499
pICH15860
pICH15477
pICH16422
LB
RB
Act2
MP
RdRP
GFP
NTR
nos
Sequence with silent mutations
Intron
Subgenomic promoter

Fig. 6B



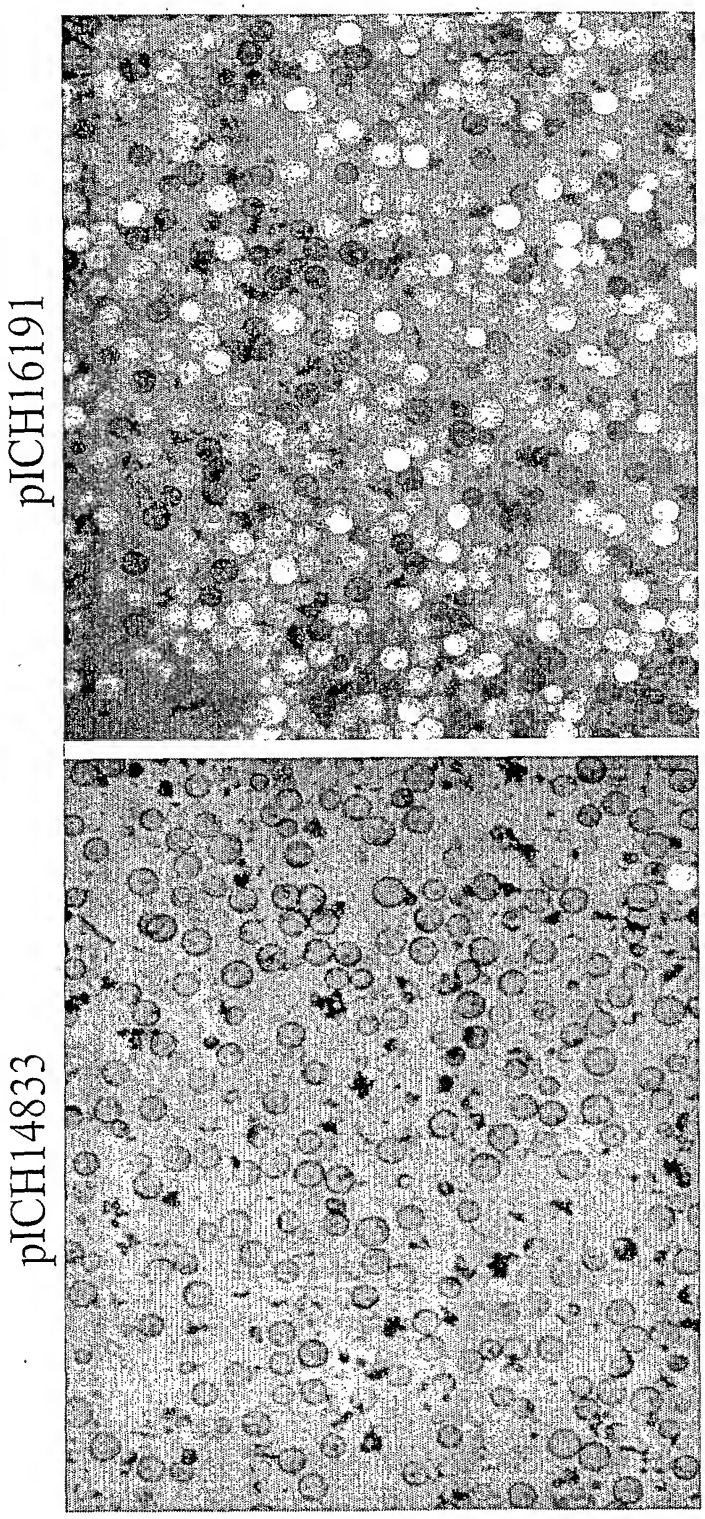
1. 14833	0 intron	
2. 15011	0 intron	
3. 15041	1 intron	no mp sgp
4. 15466	0 intron	- cryp int. 1
5. 15025	3 introns	
6. 15034	3 introns	
7. 15477	2 introns	
8. 15488	1 intron	
9. 15900	0 intron	no mp sgp
10. 15499	6 introns	
11. 15755	3 introns	
12. 15661	3 introns	

Fig. 7A



1. 14833	0 intron	
2. 15011	0 intron	
3. 15041	1 intron	no mp sgp
4. 15466	0 intron	- cryp int. 1
5. 15025	3 introns	
6. 15034	3 introns	
7. 15477	2 introns	
8. 15488	1 intron	
9. 15900	0 intron	no mp sgp
10. 15499	6 introns	

Fig. 7B


pICH16191
pICH14833

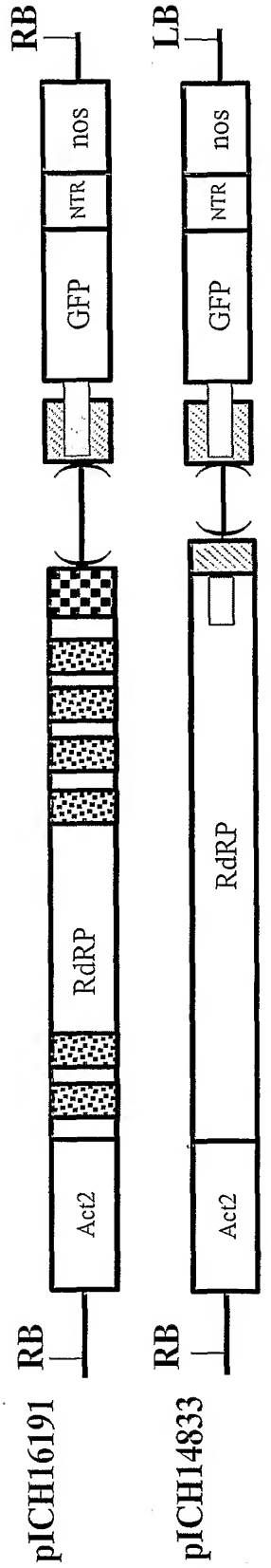

RB
GFP
NTR
nos
Act2
RdRP
pICH16191
RB
LB
GFP
NTR
nos
Act2
RdRP
pICH14833
RB

Fig. 7C

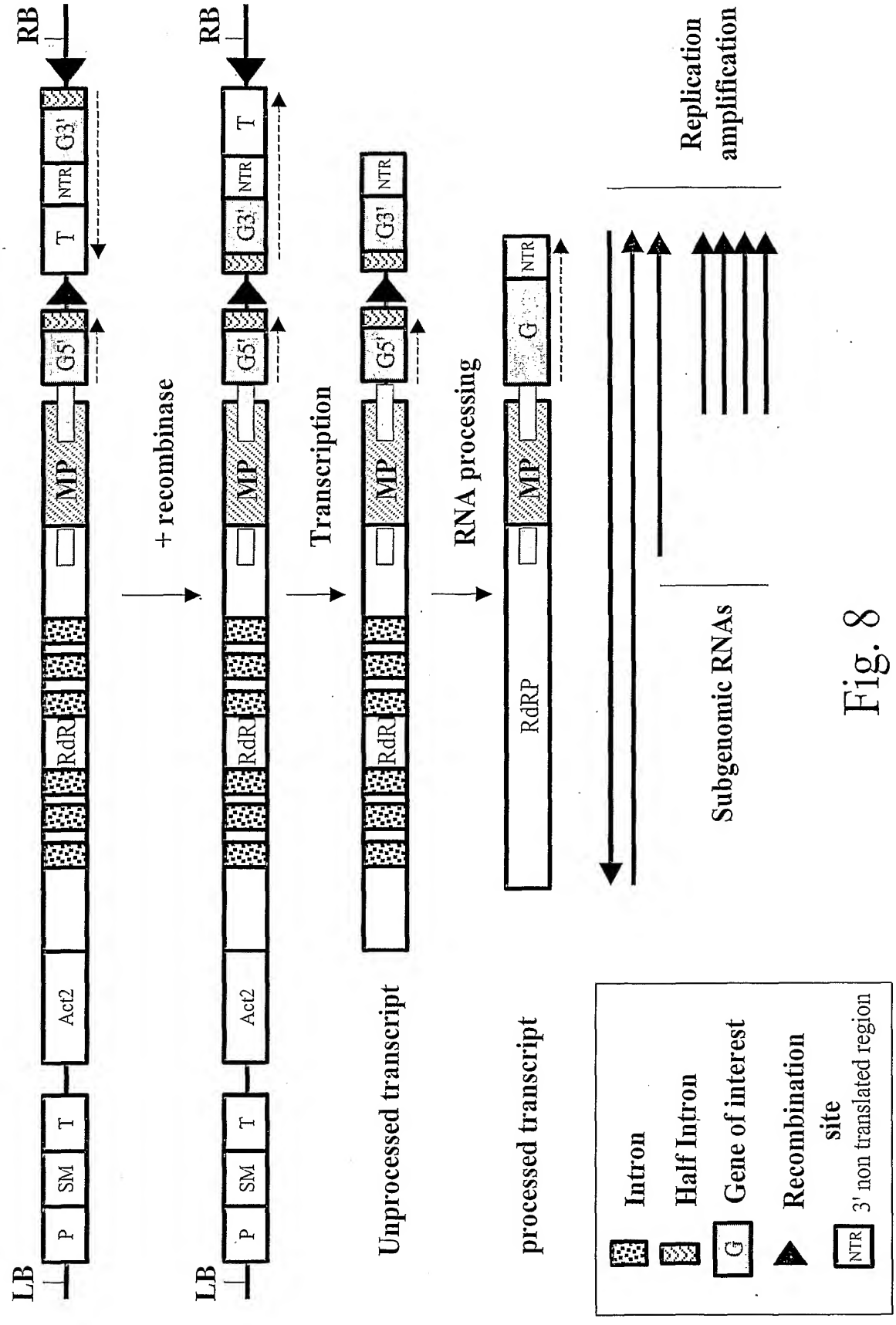

LB
P
SM
T
Act2
RdR
MP
G5'
T
NTR
G3'
RB
+ recombinase
Transcription
Unprocessed transcript
RNA processing
processed transcript
RdRP
G
Replication amplification
Subgenomic RNAs
Intron
Half Intron
Gene of interest
Recombination site
3' non translated region

Fig. 8

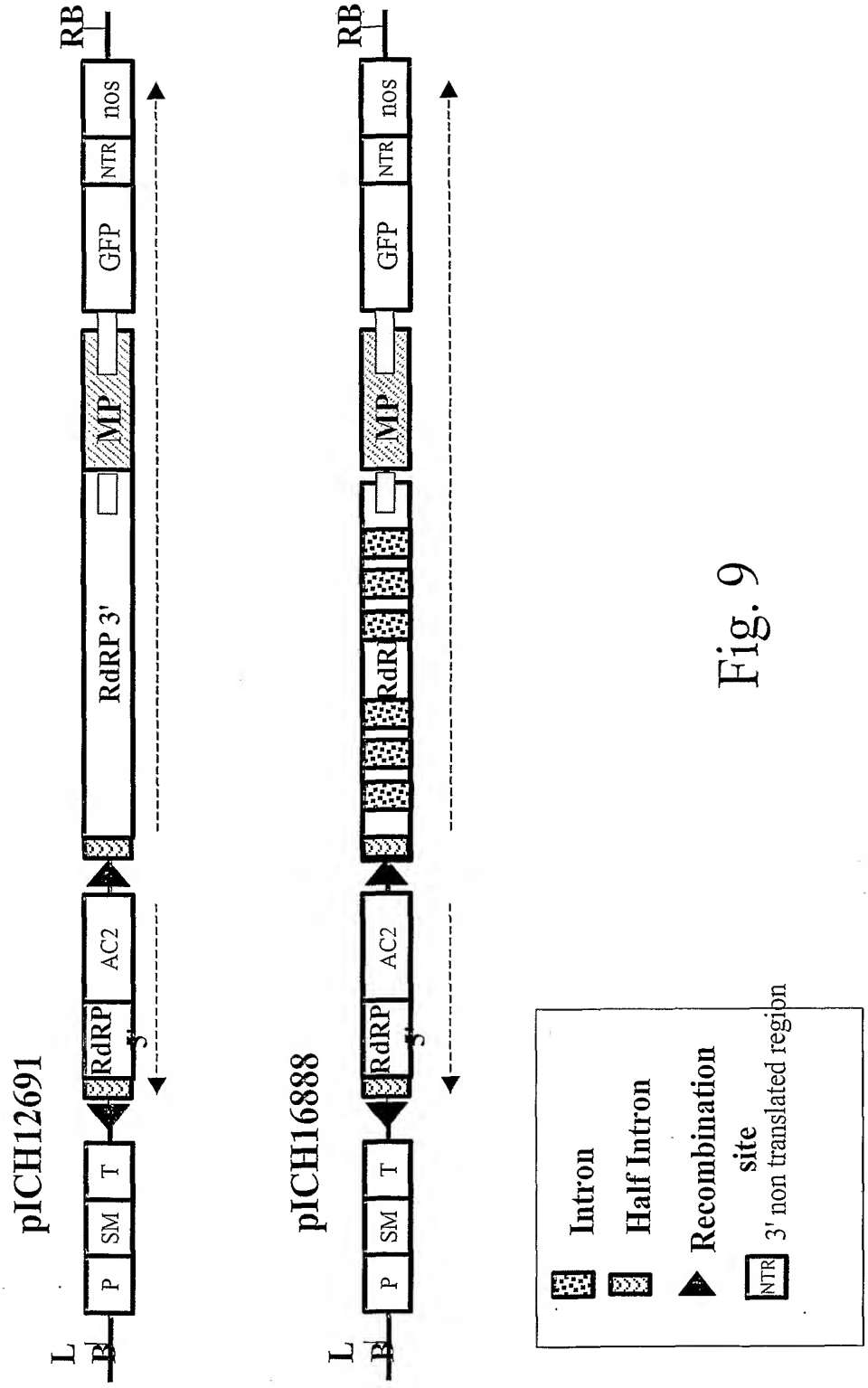
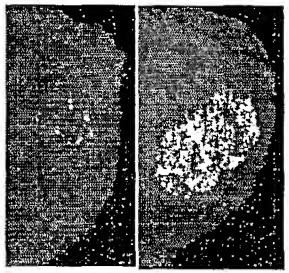

pICH12691
L
RB
P
SM
T
RdRP
5'
AC2
RdRP 3'
MP
GFP
NTR
nos
pICH16888
Intron
Half Intron
Recombination site
3' non translated region

Fig. 9

pICH12691
transformants
infiltrated with pICH10881
providing integrase



pICH16888 transformants
infiltrated with pICH14313 providing integrase

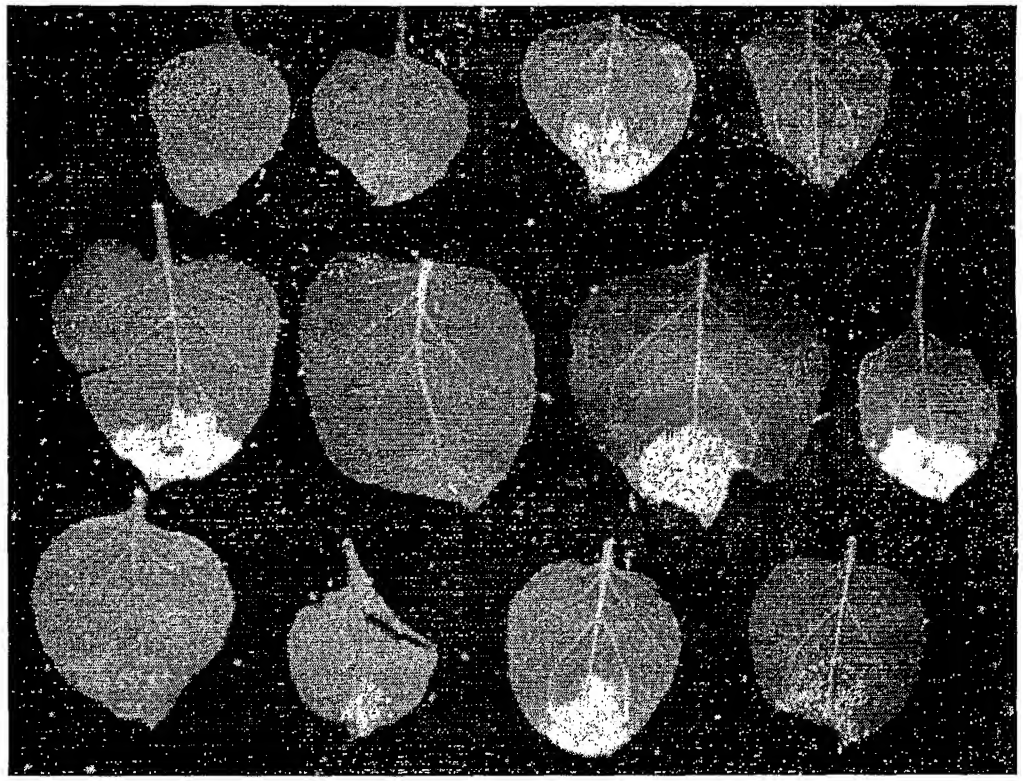


Fig. 10

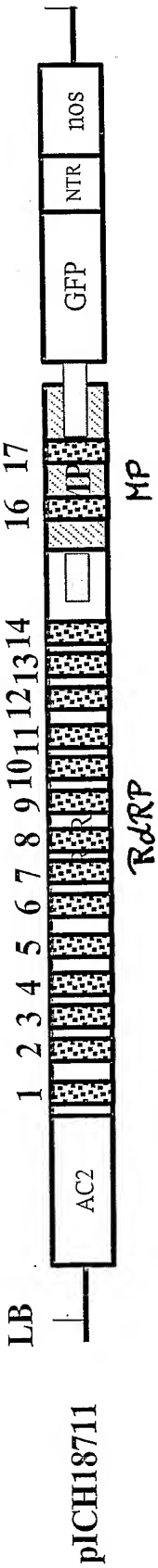

pICH18711
LB
AC2
1 2 3 4 5 6 7 8 9 10 11 12 13 14
RdRP
16 17
MP
GFP
NTR
nos

Fig. 11